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## New and interesting Plants from Western North America.—VIII

By A. A. HELLER

### **Microsteris MacDougalii** sp. nov.

Annual, spreading, puberulent or pubescent with short hairs : stem much branched from near the base, 15 cm. high or less, the spread of the branches equalling the height : leaves alternate, usually at the base of a branch, lanceolate, or linear-lanceolate, the lower larger ones 2 cm. long, 2–3 mm. wide : pedicels slender, usually quite short : calyx 5 mm. high, the linear-lanceolate lobes splitting to the base, scarious-edged below, the tips acuminate and cuspidate : corolla pale pink, very small, the tube scarcely or at all exceeding the calyx, the lobes very short : seeds olive-brown.

Dr. D. T. MacDougal's no. 42, collected on "dry hills north of Flagstaff," Arizona, June 3, 1898. The type specimen is deposited in the herbarium of the New York Botanical Garden.

In habit this species is like the northern *M. diffusa*, but very different in other particulars. It is peculiar in having a calyx with lobes split to the base.

### **Brittonastrum pallidiflorum** sp. nov.

Lower portion of stem not seen, the upper portion cinereous puberulent, cymosely branched : branches slender, leafy, 2 dm. or more in length : leaves scattered, opposite, coriaceous, roughened with very short hairs, resinous dotted, the lower ones 4 cm. long, including the petiole, 2.5 cm. wide, broadly ovate, obtuse, cordate at base, crenulate, the petioles 1.5 cm. long, ciliate ; leaves of the upper part of the branches smaller, ovate or ovate-lanceolate, acute, somewhat contracted at base, dentate, short-petioled, or the uppermost sessile : spikes 3–5 cm. long, dense, the peduncles and pedicels very short, only about 1 mm. long ; bracts equalling or exceeding the calyx, lanceolate or linear-lanceolate, puberulent, ciliate, acuminate ; calyx 7 mm. long, about 18-nerved, puberulent resinous dotted, somewhat two-lipped, the lobes lanceolate, acute, whitish, the two lower ones usually slightly shorter than the three upper ones ; corolla 14 mm. long, slender, its tube exserted, puberulent or shortly pubescent, upper lip erect, the two lobes short, rounded, the lower lip spreading, with the middle lobe much longer than the lateral ones ; stamens and style exserted ; style two-lobed.

The type, preserved in the herbarium of the New York Botanical Garden, is Dr. D. T. MacDougal's no. 313, collected in a "cañon near the eastern base of Bill Williams Mountain, Arizona, July 22, 1898."

This species should, perhaps, be described as *Agastache pallidiflora*, as it has considerable resemblance to *Agastache*, especially in the appearance of the spikes. It has, however, the slender, exserted corolla and narrow bracts of *Brittonastrum*, and geographically would seem rather to belong to that genus. It seems to be a connecting link between these closely related genera.

#### **Senecio Hartianus** sp. nov.

Perennial, sometimes propagating by underground stolons: stem simple, erect, 3-4 dm. high, lanate, becoming smoother with age: leaves mostly basal, these oval, 12-18 mm. long, some cordate on petioles 1 cm. long, others narrowed into a petiole 3-4 cm. long, finely serrate; stem leaves few, scattered, four to six in number, the lowest lanceolate, petioled, about 3 cm. long, the others linear, sessile, bract-like, all floccose, becoming glabrate with age: heads 4-6 in a terminal corymb; pedicels slender, 1-3 cm. long, somewhat lanate; involucre 5 mm. high, lanate, or becoming glabrate, its bracts linear-lanceolate, acuminate, tipped with purple; rays about 15, oblong, bright yellow, 4 mm. long, 1 mm. wide: achene glabrous: pappus bright white.

No. 230, collected by Dr. D. T. MacDougal, "in valley in open woods near Hart Spring, San Francisco Mountain, near Flagstaff, Arizona, July 5, 1898. The type specimen is deposited in the herbarium of the New York Botanical Garden., A well-marked species of the *S. aureus* group.

#### SOME LONG-STYLED SPECIES OF DRABA

Certain remarks lately printed by Prof. E. L. Greene in Pittonia concerning the trustworthiness of the statement "authentic specimen from type locality," as printed on some of my labels belonging to the New Mexican collection of 1897, led me to look up the type sheet of *Draba aurea* var. *stylosa*.

I wish to express my thanks to Dr. B. L. Robinson for the privilege of examining this type sheet, as well as the other material in the Gray Herbarium which is associated with it under the

varietal name. The investigation of this material, as well as that in the herbaria of the New York Botanical Garden and of Columbia University, which latter contains a sheet of Fendler's no. 43, upon which the variety was founded, proved very interesting. It showed that a number of distinct forms have been included under one name, not only in the original collection, but among later collections as well. Some of these have already been segregated by Professor Greene, but there are others which seem equally worthy of characterization.

*DRABA HELLERIANA* Greene, *Pittonia*, 4: 17. 1899

*Draba aurea* var. *stylosa* A. Gray, Amer. Journ. Sci. II. 33: 243. 1862, in part.

*Draba stylosa* Heller, *Plant World*, 1: 23. 1897. Not *D. stylosa* Turcz. 1854.

When the writer raised *Draba aurea* var. *stylosa* of Gray to specific rank in 1897, he failed to note that the name was invalidated by previous use. In the recent diagnosis of *Draba Helleriana* by Professor Greene, our no. 3669, an "authentic specimen from type locality," and Professor Wootton's no. 275, collected in the White mountains, Lincoln county, southeastern New Mexico, were cited as types.

After the description, Professor Greene further remarks that "Mr. Heller's statement, printed on his labels 'Authentic specimen, from type locality,' is mere bombast. Fendler collected no such plant as this; and Mr. Heller did not find the subalpine Fendlerian type on which Gray founded his *D. aurea* var. *stylosa*."

Perhaps my investigations have been very superficial, but so far I have failed to discover Professor Greene's reason for the *positive* assertion that "Fendler collected no such plant as this." Probably Professor Greene has not seen the type sheet of *D. aurea* var. *stylosa*, for on it are two fine examples of this same *D. Helleriana*, and the label says Fendler collected them. Mr. Fendler's field note also shows that he collected this particular form, for the latter part of it reads: "More rarely in the creek bottom and low banks of the creek." In the rich soil on the "low banks of the creek," is exactly where the specimen of mine which Professor Greene has seen, was obtained, and necessarily near the spot of

original collection, a fact needing no explanation to one familiar with the topography of Santa Fe cañon. There is also an example of this species in the herbarium of Columbia University, under Fendler's no. 43.

***Draba patens* sp. nov.**

Annual or biennial: stems rather stout, 4 dm. high when mature, branched in the upper three fourths, the branches patent, markedly hirsute with mostly simple hairs, leafy throughout, even on the flowering branches: leaves rather thin, light green, the lowest ones obovate or spatulate, about 2.5 cm. long, 1 cm. wide, petioled, the petioles ciliate; the others ovate-oblong or ovate-lanceolate, acutish or the upper ones acute, sessile at the broad base, roughened on both sides with very short hairs, serrate with prominent spreading teeth, these wanting near the base, especially on the leaves of the lower part of the stem; those on the middle portion of the stem the largest, 3–3.5 cm. long, 1.5 cm. wide: branches bearing flowers and fruit having a spread of 15 cm.: calyx yellowish, the lobes oblong, obtuse, 2 mm. long, somewhat pubescent: petals bright yellow, oblong, twice the length of the calyx: fruiting pedicels slender, pubescent, 5 mm. long; pod twisted, pubescent with short hairs, about 1 cm. long, tipped with a prominent slender style.

The type is Professor E. O. Wooton's no. 275, preserved in the herbarium of the New York Botanical Garden.

This number is cited by Professor Greene as part of his *D. Helleriana*, but the specimen here described is certainly different from my no. 3669, and from Fendler's original in the Gray Herbarium. Professor Wooton's plant differs from mine in its system of branching, not being branched directly from the base, as is mine, but the branches commence some distance above the root, and are widely spread, whereas in my plant the upper branches are strict; the leaf is thinner, broader, of a rather different shape, prominently toothed; the calyx is smoother, and the pods more pubescent.

Since writing the above description, I have seen Professor Wooton's no. 275, as represented in the herbarium of the Missouri Botanical Garden. This specimen differs considerably in general appearance from the one just described, as it has much larger leaves, which are a little thinner, entire, or almost so. It is a marked form, perhaps worthy of varietal rank.

DRABA NEO-MEXICANA Greene, Pittonia, 4: 18. 1899

*Draba aurea* var. *stylosa* A. Gray, Amer. Journ. Sci. II. 33: 243. 1862, in part. Not *D. stylosa* Turcz. 1854.

Professor Greene describes this as "a subalpine species, of the mountains back of Santa Fé, New Mexico; this description drawn from Fendler's no. 43 as found in the U. S. Herbarium."

As has been noted above, a large part of Fendler's no. 43 is represented on the type sheet by *D. Helleriana*, but there are also on it two small plants which are evidently *D. Neo-Mexicana*, according to description.

*D. Neo-Mexicana* is the plant referred to under *D. Helleriana*, where Professor Greene says that "Mr. Heller did not find the subalpine Fendlerian type on which Gray founded his *D. aurea* var. *stylosa*." Professor Greene was not present with me in New Mexico when I made the collection referred to, neither have I ever told him that I did not collect this particular plant; hence he must have merely inferred that I did not, simply because he never saw it under one of my labels.

Neither am I able to see how he could safely accuse a man of "bombast" when he acknowledged in the citation of the type of *D. Neo-Mexicana* that he had seen only one example of Fendler's no. 43—the one in the U. S. National Herbarium—and that not the type of Gray's *D. aurea* var. *stylosa*.

Furthermore, I fail to find any support for the assertion that this is a subalpine plant, any more than is *D. Helleriana*. In the "Plantae Fendlerianae," the locality is given as "shady declivities, along Santa Fé Creek, at the foot of mountains, etc.; May to July." Fendler's field note reads: "8th May–28th July, 1847. Santa Fé Creek, shady steep declivities and foot of mountains. More rarely in the creek bottom and low banks of the creek." Indeed, if a low, stunted growth alone is to be taken as subalpine, such subalpine plants can be produced at sea level within the tropics.

Fendler not only collected *D. Helleriana* and *D. Neo-Mexicana*, two very distinct forms, but also a third less differentiated one, all included under his no. 43. This third form is present on the type sheet of *D. aurea* var. *stylosa*, but it is there represented by only one small plant. It is well represented, however, in the George Engelmann Herbarium at the Missouri Botanical Garden. Through the

kindness of Dr. Trelease, I have had the privilege of examining the two sheets of Fendler's no. 43, preserved there. Although averse to the characterizing of varieties, the best way of treating this form seems to be to describe it as a variety.

***Draba Neo-Mexicana robusta* var. nov.**

Multicipitally branched after the manner of *D. Neo-Mexicana*, but with stouter, more pubescent, curved stems, branched above: leaves more numerous and larger. The type in Fendler's no. 43, as represented in the George Engelmann Herbarium at the Missouri Botanical Garden.

***Draba pallida* sp. nov.**

Biennial, or perhaps perennial, somewhat multicipitally branched, cinereous throughout: stems 4 dm. high, beginning to branch near the base, the branches ascending, densely pubescent below with mostly forked hairs, these gradually becoming fewer on the upper parts of the stem, and entirely wanting near the summit: leaves thick and firm, all roughened with a dense, short, stellate pubescence, the basal ones spatulate, clustered in rosettes, entire, about 15 mm. long, 4 mm. wide, tapering into a petiole; those of the stem oblanceolate, 2–3 cm. long, 5–7 mm. wide, sessile, acute, serrate in the upper half with sharp spreading teeth, or the upper reduced ones nearly entire: flowers apparently creamy or white: pedicels slender, strongly divaricate, slightly pubescent, about 5 mm. long: pod equalling or exceeding the pedicel, twisted, glabrous, tipped with a slender style 2 mm. long.

Dr. H. H. Rusby's no. 18, as represented in the herbarium of Columbia University. It was collected on "shady hillsides, Mogollon Mountains, New Mexico, August, 1881."

***Draba rubricaulis* sp. nov.**

Apparently annual: stem 4 dm. high, slender, purplish, branched from near the base, the branches erect, hirsute below with spreading hairs, glabrous above: leaves few, mostly below the branches, thin, light green, sessile, oblong, obtuse, or the smaller upper ones lanceolate, acute, dotted with very short appressed hairs, the veins shortly hirsute, the margin ciliate, the larger ones 3–4 cm. long, 1 cm. wide: branches peduncle-like, subtended by a leaf, naked, or provided with a few short lanceolate bracts about 5 mm. long, the peduncle part 5–10 cm. long, this longer than the flowering portion on the lower branches, one third shorter on the upper ones: pedicels divaricate, slender, glab-

rous, 1.5 cm. long when mature : sepals oblong or ovate, yellowish, glabrous, 2 mm. long : petals yellow, oblong or oblong-spatulate, obtuse, about 5 mm. long : pods spirally twisted, usually with three spirals, normally shorter than the pedicel, moderately pubescent with short hairs, these more noticeable on the margins, tipped with a slender style 2 mm. long.

C. G. Pringle's no. 1529, collected October 1, 1887, on cool ledges, Sierra Madre, State of Chihuahua, Mexico. The type is in the Gray Herbarium. Its nearest relative is, perhaps, *D. patens*.

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